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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,061	03/05/2002	Kari Hasanen	FORSAI-30	7973

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EXAMINER

HUG, ERIC J

ART UNIT PAPER NUMBER

1731

DATE MAILED: 08/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/980,061	Applicant(s) HASANEN ET AL.	
	Examiner Eric Hug	Art Unit 1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on May 10, 2003 (RCE).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114.

Applicant's submission filed on March 10, 2003 has been entered.

Claim Rejections - 35 USC § 103

1. Claims 12-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gustavsson et al (US 5,997,696) in view of Biondetti (US 4,472,958). Gustavsson discloses a shoe press having a press shoe movable relative to a backing roll and forming a nip with the backing roll. Fed through the press is a fibrous web and a press felt. Adjustable pressure elements are disposed along the entire width of the shoe (directed along the roll axis) to direct the press shoe against the backing roll. The elements are responsive to pressure measurements taken along the shoe width. Adjustment of the elements based on pressure measurements provides an even nip pressing force across the web (profile). Gustavsson teaches loading the press shoe against the backing roll and then controlling the nip forces once the shoe has been positioned against the backing roll. This shoe press is typical of many prior art shoe presses having an adjustable nip profile.

Although Gustavsson teaches how to move the press shoe and control the nip pressure after it has been loaded against the backing roll, Gustavsson is silent as to how to control the movement of the press shoe during loading. Biondetti (US 4,472,958) discloses a rolling press comprising hydraulic supporting pressure elements and position detectors or sensors that regulate the control of the pressure elements. The rolling press contains two rolls arranged in opposition to one another in a vertical plane. The rolls have a rotatable shell about a fixed roll support, with pressing elements disposed along the length of the roll between the roll shell and fixed roll support. The pressure elements act on the roll shell to exert an adjustable and variable pressure force along the axial length. Each pressing element acts in the operative pressing direction to produce a pressing force between the two rolls. At least one position detector is located within the lower press roll to measure the distance between the roll shell and the fixed roll support. Preferably, several position detectors are positioned along the length of the roll to account for different distances between the roll shell and fixed roll support at different axial positions. The position detector acts upon a control device, which in turn acts upon the pressing elements. The pressing elements act upon the roll shell, directing the shell towards the upper press roll, until the upwardly directed force of the lower press roll reaches an equilibrium condition with the downward force of the upper press roll, thus providing the desired press nip force. Zone control of the roll shell position is achieved using multiple sensors and pressure elements along the axial length. Thus, Biondetti teaches loading of a lower press roll against an upper press roll using position sensors.

The present invention is concerned with loading a press shoe against a press roll, rather than loading a press roll against a press roll. However, since Biondetti solves the same problem as the present invention, then at time of the invention it would have been obvious to one skilled in the art to modify the shoe press of Gustavsson to include position sensors along its width (axial length) and control the movement of the shoe as taught by Biondetti for a similar arrangement using a lower press roll. One would be motivated to properly control the movement of the shoe towards the opposing press roll to obtain uniform pressing conditions. Biondetti teaches a way of achieving this by moving the lower pressing surface in response to position measurements. Although Biondetti does not teach using position sensors in a shoe press *per se*, one can glean from Biondetti a means for controlling the positioning of a lower press shoe relative to an upper backing roll in the same manner as Biondetti controls the position of a lower press roll relative to an upper press roll.

The shoe press of Gustavsson modified according to the suggestions of Biondetti as described above reads on the method of independent claim 12, the arrangement of independent claim 18, and the apparatus of independent claim 23. With respect to the dependent claims:

Claims 13, 14, 15, 19, 20, 24: Biondetti discloses using two sensors at both ends (edges) of the roll (see column 10, lines 45-54) for parallelism of movement. These roll ends are known by one skilled in the art to be equivalently the tending side and driving side edges. Additional sensors can be disposed along the roll between the end sensors.

Claims 16, 22: In Biondetti, a control/regulation device receives the position sensor measurements and drives the pressure elements based on the measurements. One skilled in

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the art would recognize using a computer and computer algorithm to drive the control/regulation device.

Claim 17: In Biondetti, to achieve the desired force equilibrium, movement of the pressing elements in response to the position sensors decreases as the distance increases between the lower roll shell and the roll ends, i.e. as the roll shell moves closer to the upper roll. Thus, the movement of the lower press roll slows down as it nears its desired position adjacent the upper press roll (see column 6, line 39 to column 7, line 57). This also would be obvious to one skilled in the art, as one would desire finer control of movement as the lower press roll becomes closer in proximity to the upper press roll.

Claim 21: In Biondetti, the movement of the hydraulic pressing elements is based on the measurements by the position sensors.

Claim 25: The backing roll of Gustavsson can be heated, thus can be a thermoroll.

Claim 26: The reference position in Biondetti is the axis of the lower press roll, which is the frame upon which the roll shell and pressing elements are mounted. For a shoe press, this would equivalently be the frame upon which the press shoe is mounted.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Moore (US 6,430,459) discloses a nip pressure sensing system for measuring pressure distributions and nip width in a nip roll press. The sensing system provides for initiating corrections and control of the nip pressure distributions based on pressure sensor measurements.

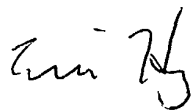
Information Disclosure Statement

The information disclosure statement (IDS) submitted on March 10, 2003 along with the filing of the RCE has been fully considered by the examiner. None of these references discloses or suggests the present invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Hug whose telephone number is 703 308-1980. The examiner can normally be reached on Monday through Friday, 9:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 703 308-1164. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872-9310 for regular communications and 703 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-0651.



jeh
August 1, 2003



PETER CHIN
PRIMARY EXAMINER